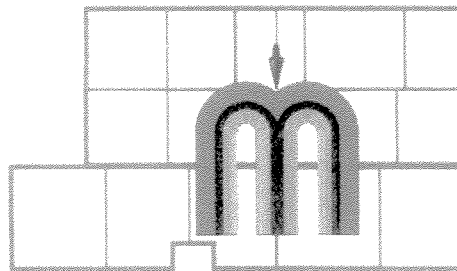


**Mahoning County and Co-Permitted Entities,
Mill Creek Metroparks and the Townships of
Austintown, Beaver, Boardman, Canfield, Coitsville,
Poland, and Springfield**

**Storm Water Management Program
Annual Report
For
April 3, 2005 – April 3, 2006**



MAHONING COUNTY

**Authorization for Small Municipal Separate Storm Sewer Systems to Discharge Storm
Water under the National Pollutant Discharge Elimination System**

Submitted to:
Ohio Environmental Protection Agency

Prepared by:
URS
Architects Engineers Planners

April 3, 2006

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1.0 Introduction

1.1 Year 3 Annual Report (April 3, 2005-April 3, 2006)

This Annual Report serves as an evaluation of storm water management activities currently performed in Mahoning County and the co-permitted entities. This annual report is designed to:

Provide information regarding the development and implementation of storm water pollution prevention activities and Best Management Practices (BMP) conducted by Mahoning County and other entities.

Began documentation, appropriateness assessments and effectiveness of the Best Management Practices (BMPs) identified in the Storm Water Management Plan submitted to OEPA on March 10, 2003.

Document the Year 3 activities for Mahoning County and the co-permitted entities pursuant to their Storm Water Management Plan.

The Report is being submitted to fulfill the requirements of Section 4.3 Reports of Ohio Environmental Protection Agency's (OEPA) *Authorization for Small Municipal Separate Storm Sewer Systems to Discharge Storm Water under the National Pollutant Discharge Elimination System*, NPDES Permit No. OHQ000001. Coverage was granted by OEPA effective April 10, 2003.

1.2 Report Organization

The annual report has been structured so that it can be inserted into the Mahoning County Storm Water Management Plan (SWMP) either as an addendum or directly behind the Minimum Control Measure BMP tables and the Year 1 and 2 Annual Reports.

The summary table format was modified in Year 3 to "streamline" reporting and simplify program reporting activities.

The summary tables were developed so that the following elements can be added in future permit years:

- > Year 4 through year 5 Annual Report and BMP activities,
- > Continued compliance with current and future permit conditions,
- > BMP Appropriateness Assessment information,
- > Schedule and Measurable Goal updates and revisions,
- > Additional BMPs as they are identified and incorporated or current BMPs which may be renamed for clarity.

1.3 Overview of Year 3 Storm Water Management Plan Activities

In an attempt to minimize the size of the report and condense the information being collected and reported, Mahoning County on behalf of the co-permittees revised the Minimum Control Measure tables. Figure 1.0 is an example of the modified table.

Figure 1.0 – Modified Reporting Template

| Best Management Practice | Permit Year 2005: Year 3 Completed Activities | Permit Year 2006: Year 4 Scheduled Activities |
|---|--|--|
| Title of BMP | Information | What's Next |
| Compliance with Permit Conditions: (Same as in previous Annual Report) | | |
| Appropriateness Assessment: | | |

Year 3 Annual Report includes information in the Year 4 objectives and implementation columns which provides the County, Townships and Metroparks with some steps to assist with BMP implementation and breaks down some of the more involved program elements.

Memorandum of Understanding (MOU's) have been completed for the Townships and Metroparks for the entire permit term. MOU's for the following will be completed annually:

- Mahoning County District Board of Health
- Building Inspection
- County Sanitary Engineer
- Planning Commission
- Soil and Water Conservation District

Mahoning County began implementation of structural Post-Construction Storm Water Management for roadway projects. The design and implementation uses both the Mahoning County – *Drainage and Erosion and Sedimentation Control Manual* and the Ohio Department of Transportation - *Location and Design Volume 2 manual* to address post construction storm water requirements. Mahoning County began actively documenting locations of constructed post- construction BMPs for maintenance purposes.

Mahoning County is continually challenged by the possibility that the Soil and Water conservation staff currently being used to provide site erosion and sediment controls inspections and plan reviews may not longer be funded and will not be available to perform the inspection or reviews. The county has noted where appropriate in the BMP tables this concern and the BMPs which could be effected by losing these services.

2.0 Mahoning County & Co-Permitted Entities' Municipal Separate Storm Sewer System (MS4)

2.1 Regulated MS4 Area Summary Information

Table 1.0 shows the number of square miles encompassed by each of the co-permittees MS4 regulated areas. This table will continue to be included for payment of the regulated area fee. While rural portions of the County are not served by sewers, the majority of the regulated area is sewerred.

Table 1.0 Co-Permitted Entities, Estimated Regulated Area Size and Watershed Location

| SWMP Co-Permitted Entities | Area (miles ²) | Major Watersheds |
|---|----------------------------|--|
| Mahoning County | 58 | Mahoning River, Little Beaver Creek |
| Austintown Township | 19.7 | Mahoning River |
| Beaver Township | 1.1 | Mahoning River |
| Boardman Township | 22.5 | Mahoning River |
| Canfield Township | 7.36 | Mahoning River |
| Coitsville Township | 0.12 | Mahoning River |
| Poland Township | 1.3 | Mahoning River, Little Beaver Creek |
| Springfield Township | 6.8 | Mahoning River, Little Beaver Creek |
| Mill Creek Metro Park | 4.06 | Mahoning River |
| Total Estimated Regulated Area | 120.93 | |

The storm water drainage system for Mahoning County and the Townships is a combination of ditches that run parallel to County and Township roads, and a limited number of closed pipe systems. The majority of the closed pipe systems are located in subdivisions. Mahoning County and the regulated portions of the Townships are assessing options on how to potentially deal with public/private detention or retention basins. They are looking at potential attributes to collect on these devices during the inventory.

The SWMP program area lies generally in the area of northeast Ohio. Mahoning County covers 424 square miles. The Mahoning River watershed (including major tributaries Yellow Creek, Mill Creek and Crab Creek) is the major watershed in the County, draining approximately 2/3 of the county. Two rather small portions of the southern 1/3 of the County, including portions of Poland and Springfield Townships, lie within the Little Beaver Creek watershed. Total maximum daily Loads (TMDLs) have been developed for streams in the area. Information on these TMDLs is shown in Table 2.0.

Table 2.0 –Mahoning River TMDL Summary

| Stream/Watershed Name: Mahoning River | | | |
|--|------------------------------|---------------|----------------|
| Assessment Unit Numbers: 05030103- 040, 050, 070, 080 | | | |
| Assessment Unit Stream Names | Assessment Number | Causes | Sources |
| Eagle Creek | 05030103 - 040 | Bacteria | HSTS |
| Duck Creek to Eagle Creek | 05030103 - 050 | Bacteria | HSTS |
| Duck Creek | 05030103 - 050 | Bacteria | HSTS |
| Mosquito Creek | 05030103 - 070 | Bacteria | HSTS |
| Mud Creek | 05030103 - 070 | Bacteria | HSTS |
| Meander Creek | 05030103 - 070 | Bacteria | HSTS |
| Squaw Creek | 05030103 - 070 | Bacteria | HSTS |
| Mill Creek | 05030103 - 080 | Bacteria | HSTS |
| Crab Creek | 05030103 - 080 | Bacteria | HSTS |
| Yellow Creek | 05030103 - 080 | Bacteria | HSTS |

Faced with unique challenges with selecting, implementing and evaluating or assessing BMPs, the Year 3 Annual Report presents data (both qualitative, and where available, quantitative data) to document permit compliance. BMP appropriateness assessments are covered in Sections 3.2.1 and 3.2.2, which provides supporting information to document annual report requirements (under permit section 4.3.1- Reporting).

During year 3 as implementation began to move forward. The storm water program was faced with where to the BMPs get implemented? In the near term the county and the co-permittees will implement the BMPs associated with MCM 4 and 5 countywide. These BMPs align most closely with OEPA's Construction General Permit and is tied back into land disturbance activities. The recently updated Drainage manual provides information on how and where to incorporate these controls. MCM's 1,2, 3 and 6 are more or less implemented within the regulated portions of the County as defined by the 2000vU.S. Census Bureau and will tracked and reported on as necessary.

3.0 Summary of Year 3 Activities

3.1 Implementation and Program Status

Mahoning County's Storm Water Management Plan incorporates approximately 36 storm water management BMPs, which cross-cut a significant portion of the permittee's services, departments and operations and maintenance (O/M) procedures. As allowed under permit section 3.4 Mahoning County is requesting an Annual Report anniversary submission date from April 3 to April 10. They are recommending this revision to coincide with 30 days after the regulatory permit date of March 10, 2003. This is anticipated to make program implementation, scheduling and reporting for both the remaining term one permit annual reports and pending term two requirements more effective and better coordinated with permit schedule dates. With this proposed date change, Mahoning County will develop and submit the Year 4 Annual Report on or before April 10, 2007.

The primary program highlights during year 3 include:

- Implementation of a Storm Water Pollution Prevention Plan review, Erosion Control site inspection fee and re-inspection fee.
- Held workshop to interact with the designers and other potential users of the updated Drainage and Erosion and Sedimentation Control Manual. Objective was to provide a roll out and use the workshop as a question and answer session. Manual was approved by the County Commissioners in June 2005
- Completed and approved a riparian set back ordinance for Boardman Township.
- Web page for Mahoning County completed and Mahoning County Soils and Water Conservation District provided materials for posting.
- Townships (co-permittees) and Mill Creek Metro parks provided more quantitative data in year 3.
- Mahoning County Health Department began inventory of Home Sewer Treatment System outfalls. Next step will be to determine how to develop a base map to show both the HSTS outfall and storm sewer system outfalls combined on a single map.
- Developed an approach for initiating the Outfall Inventory – Initial step will be plot “by-hand” locations of known outfalls on the county Culvert location maps.
- Green Team – Table 3.0

Table 3.0 Green Team Summary Table

| Event Description | No. Events | Participants |
|--|-------------------|---------------------|
| Education: | | |
| Classroom & Youth Group Presentations | 621 | 11,674 |
| Adult Group Presentations | 67 | 1,479 |
| Business/Government Presentation | 68 | 1,431 |
| Teacher Curriculum Workshops | 5 | 105 |
| Waste Assessments: | | |
| Government | 10 | |
| Small Businesses | 14 | |
| Science Fairs | 68 | |
| Compost Workshops | 5 | 150 |
| Placemat contest | 1 | 612 Students |
| Media: | | |
| Quarterly Newsletter – “Mahoning Matters” | 4 | 418,744 (Copies) |
| “EZ to be Green” Newsletter to Schools | 2 | 2,300 (Copies) |
| Television Ads | 556 | |
| Radio Ads | 15 | |
| Print Ads | 11 | |
| Billboard Ads | 20 | |
| Website | | 3,200 Hits |
| Brochures | | 3,200 (Copies) |
| Calendars | | 4,000 (Copies) |
| Flyers | | 1,045 (Copies) |
| Fact Sheet | | 2,500 (Copies) |
| Other "Coloring Books & Stop Junk Mail Cards" | | 3,200 (Copies) |
| Cooperative Recycling: | | |
| Highway Litter Clean-ups | 368 | |
| Public Park Clean-ups | 22 | |
| Public Area Clean-ups | 1,803 | |
| “Cash for Cans” Contest | 1 | 23 Schools |
| Adopt-a-Spot | 2 | |
| Special Collection Days: | | |
| Household Hazardous Waste Collection | 2 | 2,103 (Cars) |
| Electronics Collection | | 768 (Cars) |
| Appliance Collection (6 sites) | | |
| Wrap-It Up (Holiday wrap & greeting cards) -15 sites | | |
| Holiday Tree Mulching (16 sites) | | |
| Other Activities w/ Public Involvement: | | |
| Drop-Off Recycling (25 Sites) | | |
| Magazine/Catalog Drives | 6 | |
| Dump & Run | 1 | 70 |
| Boardman Twp. Compost Facility (2004) | | |
| Coitsville Twp. Spring Clean-up | 1 | |

3.2 Best Management Practices (BMPs)

3.2.1 Compliance with Permit Conditions

As required by permit, the BMPs, measurable goals and compliance status have been addressed in the Annual Report Tables in section 5.0. The intent was to document permit compliance with Storm Water Management Plan activities performed during year 3.

Permit compliance was based on the following key points:

- BMP implementation.
- Quantitative data collection.
- Began development of Appropriate Assessment criteria.
- Evaluation for the BMPs which had substantial information collected.
- Additional BMPs recorded as necessary.
- BMP name changes to better capture BMP objective.

To the maximum extent practical, the Year 3 implementation schedule for all 36 BMPs was followed. During Year 3, the County found that several BMPs required further review of costs to implement. Some required refinements of the implementation approach, others continue to require dedicated funding mechanisms, and still others could require additional staff resources. These all had a direct impact on compliance with permit conditions and implementation schedules.

3.2.2 Appropriateness Assessment

Minimum Control Measures and BMPs included in the SWMP are to be evaluated or assessed for appropriateness towards achieving the statutory goal of reducing the discharge of pollutants to the Maximum Extent Practical. Given the limited information and the short time in which these BMP's have been in place, the County believes it is not possible to effectively evaluate the appropriateness of the BMP's. For those BMPs that have been implemented and for which performance data collection is under way, these assessments will likely begin in Year 4. Some of the potential assessment factors that are pending review are:

- Life cycle costs compared to the benefits.
- Functionality of the BMP.
- Level of maintenance required to ensure functionality of selected BMPs.
- Physical site location criteria for structural BMPs.
- Review of other performance data for similar BMPs from other counties.

Mahoning County's primary goal is to implement, operate and maintain productive and efficient Storm Water Management program. To accomplish this, the storm water program is proposing that a tiered approach be considered for BMP appropriateness Assessments. Tier 1 – Includes identifying difficulties with implementing the BMPs as presented on the SMWP. This will provide information on operations and maintenance of these BMPs and minimize financial resources on BMPs that may involve excessive construction, maintenance, reporting or are determined to be ineffective, Tier 2 – Includes identifying additional BMPs which could supplement BMPs which are deemed ineffective and to promote BMPs for use which will aid in promoting a sustainable program which is effective, maintainable and meets permit requirements. Similar to year 2, the Year 3 quantitative data collected primarily involve the BMPs associated with the Pollution Prevention/Good Housekeeping Minimum Control Measure.

3.2.3 Water Quality Benefits

Mahoning County's Storm Water Management Plan and the updated Drainage Manual continue to form the foundation of the County's Storm water drainage and water quality programs. The SWMP acts to unify a wide variety of County programs, such as training, operations and maintenance and construction, under a common focus on water quality issues. The water quality benefits of our BMPs are supported by research or common sense approaches to reducing storm water pollution within the framework of the County's organization and mission.

Progress in reducing storm water pollution continues to be exhibited by our Year 3 accomplishments and the evolution of our Storm Water Management Program. Section 5.0 of this report, which lists specific accomplishments and implementation activities for all 36 BMPs, is a demonstration of our significant efforts to reduce and prevent storm water pollution.

4.0 Mahoning County and Co-Permitted Entities Storm Water Management Program Contacts

4.1 Mahoning County Storm Water Management Program Contact

Primary Contact: Ms. Marilyn Kenner, P.E.
Chief Deputy County Engineer
Mahoning County Engineers Office
940 Bears Den Road
Youngstown, Ohio 44511-1299
Phone Number: 330-799-1581

Secondary Contact: Mr. Tim Burkert, P.E.
Design and Construction Engineer
Mahoning County Engineers Office
940 Bears Den Road
Youngstown, Ohio 44511-1299
Phone Number: 330-799-1581

4.2 Mahoning County Consultant Contact

Consultant: URS Corporation

Primary Contact: Mr. Mark McCabe
Project Manager
277 West Nationwide Blvd.
Columbus, Ohio 43215
Phone Number: 614-464-4500

Secondary Contact: Mr. Tom Denbow
1375 Euclid Avenue .
Cleveland, Ohio 44113
Phone Number: 216-622-2400

5.0 BMP Tables